

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.







## VICK'S MONTHLY MAGAZINE.

SEPTEMBER, 1879.

NO ONE can furnish seeds of flowers and vegetables with any certainty as to their quality, unless he grows some on his own grounds, and constantly tests all that are obtained from other sources, both as to vitality and quality. No seedsman can grow all the seeds he must sell, because all will not mature well in any one climate. We can grow certain things better than any country in the world, while there are other kinds that, on account of climate and long experience, are grown of much better quality in other countries than any we can produce. The seedsman, therefore, has to learn what he can best produce, and what should be grown in other countries. For a full supply we are dependent upon England, France, Germany, Holland, Australia, &c.

For the purpose of gaining all possible knowledge on this subject, as well as of growing everything that can be produced in perfection, we have for many years cultivated extensive grounds, of different varieties of soil, and, for the purpose of obtaining this variety, have had to select land in different places. Our largest and best place is about five miles from the city, where we have a warm, sandy soil, particularly suited to Phloxes, Asters, Dahlias, etc. This, as well as our home place near the city, attracts many visitors, and receives many flattering comments from the press. As we cultivate nearly a hundred acres, our system is not garden, but field culture. Everything is planted in long

rows, wide enough apart to be cultivated by horse and cultivator. As we grow mainly for seeds and bulbs, there is no attempt at effect, yet the exhibition of twenty or more acres of flowers in a field is something grand. The best time to see our flowers is in August, when everything is in perfection, and before seed-gathering commences, early in September.

The editor of the *Illustrated Christian Weekly* visited our grounds some time since, and from his report we make some extracts:

"Until within a few years but few flower seeds were grown in America for the market, and these were of the commonest kinds, such as could be produced with little care and skill. Our seedsmen imported their finest sorts mainly from France and Germany, a few from England, while Holland supplied not only the bulbs commonly known as Holland bulbs, but most of our Lilies. Mr. JAMES VICK, of Rochester, N. Y., was the pioneer in the systematic growing of flower seeds, and he is now without doubt the most extensive grower in America. After pursuing this work for several years, and meeting with only moderate success, though employing experienced seed-growers from Europe, he spent a season among the most noted seedsmen of the Old World studying their methods. He particularly noticed the effects of different climates, attributing many of his early failures to ignorance on this point. Returning to the work with new energy and more knowl-





ROADWAY ACROSS HEAD OF LAKELET.



edge, he has made flower-seed growing a grand success.

"Five miles north from Rochester, towards Lake Ontario, and within two miles of its shore, near a station known as Barnard's, on the Charlotte branch of the New York Central railroad, is situated VICK's flower-farm. It consists of sixty-five acres, and possesses much natural beauty. A deep wooded ravine runs irregularly through its center, and through this winds a little spring-fed stream, which, near the center of the farm widens into a lakelet of several acres, which empties itself over a little fall of six or eight feet. This water is used for the washing of seed, an operation which the artist has sketched for us. It is also pumped by a windmill into large elevated tanks, and from these is distributed through iron pipes over the entire grounds, and by convenient arrangements for attaching hose an acre can be watered in a very short time, so that the plants here are never allowed to suffer from drought. The soil is a sandy loam, the timber in the neighborhood mainly chestnut and oak, and here are grown those plants that flourish best in a warm soil. Perhaps the largest field devoted entirely to one kind of flowers, at the time of our visit, was one filled with Dahlias, and containing six or more acres. It was supposed to include every variety known of real merit, and the display was gorgeous. Next in importance, perhaps, were the Asters, of every form and color, from the little Dwarf Bouquet, a mass of flowers six or eight inches in height, to the great Washington, bearing flowers four or five inches in diameter on plants four feet in height. Each color is planted separately, and at distant points, to prevent mixture.

"The Phlox Drummondii, a native of America, luxuriates in this light soil, and no other flower, we think, produces such a solid unbroken mass of color—an acre of scarlet, an acre of white, and pink, and so on through six or seven different varieties, and as many colors, without a single mixture of color, or break, or barren spot to mar its splendor. Several hundred pounds of this seed are grown every year. The seed saved for distinct colors is gathered from the middle of each acre, and early in the season; the remainder, though saved separate later in the year, is used only for mixed colors. To make a good 'mixture' it is necessary to grow the colors separate in this way, for if mixed seed is sown those varieties that seed freely will soon "run out" the weaker kinds. Although many other kinds are grown in small quantities, the Aster, Phlox, Dahlia and Tuberosa seem to be specialties.

"Several convenient houses have been erect-

ed for growing the plants which are afterwards transferred to the open fields, (a view of some of these will be observed,) and scores of frames are used for the same purpose. Airy, well-ventilated drying-houses are necessary for drying, cleaning and storing the seed, as well as cellars of immense capacity for storing the bulbs and roots. One very interesting department is the trial grounds, where everything new or unknown is carefully tested. Here we saw European novelties of last spring, and plants of California, Australia and Japan, some giving indications of value, while others seemed quite unworthy of introduction."

An old gentleman, twenty years ago one of the best known writers for the agricultural press, has sent us the following communication, probably the last we shall receive from him, and but for this we should not have given anything on this subject at present. We thought it would be well to present some of the views on our grounds referred to by our correspondent, as they may be interesting to thousands of our readers who will never have an opportunity to visit our grounds:

KIND FRIEND:—Once more I have visited the glorious exhibition of flowers on your grounds, about five miles north of the city and within two or three miles of Lake Ontario. I have availed myself of this privilege for many years, and have visited those gorgeous fields of beauty in August each year for a long time, but I think I have made, perhaps, my last visit, for my years number more than four-score, so I thought I would write a few lines to thank you for the exceeding great pleasure afforded me. Painful as well as pleasant are my reflections to-day, for well I remember the last visit I made in company with that good old man and thorough botanist, Professor DEWEY, who was an ardent lover of flowers, and, I believe, was acknowledged to be the best American authority on the Carix family. He spoke feelingly of the great treat he had enjoyed, and we formed our plans for the next season, but before the flowers bloomed he was resting peacefully in our beautiful cemetery, and loving hands had planted flowers on his grave. How well do I remember, as though but yesterday, of our ramble among the fields of Asters, and Phloxes, and acres of Dahlias until weary, and then of the sweet rest and cooling draught from the bubbling spring, then another journey among the flowers and a rest on the borders of the beautiful lakelet, under the shade of the willows. These reflections of an old man, I know, will be interesting to you, but may not be to young readers of your MAGAZINE, who are full of life and hope, and see only a sunny future.





VIEW OF SEEDHOUSE AND WINDMILL,

WITH GLIMPSE OF PROPAGATING HOUSE AND ASTER AND DAHLIA BEDS



May all their bright anticipations be fully realized, and may the close of their lives be as pleasant as that of your old friend, and mine.

What a world of improvement has been made in the Aster since I first saw it. I measured specimens five inches across without pas-



VIEW FROM THE STAIRS AT SULPHUR SPRING.

May they learn to love the beautiful in nature. The sweet influence of flowers is felt even to the last days of life, and when too feeble to visit your beautiful grounds, I know some loving one will gather the flowers for my room, and finally plant them on my last resting place, where I hope some will see them and learn to love them.

sing out of the walk, and am sure I saw larger ones in the beds. The Phlox, too, how many its colors now, from deep purple to white. We do not seem, however, to get many striped kinds, and this is not desirable for flowers used for bedding. Solid colors are better. When I first knew the Portulaca, there were but two or three shades of red, a single flower, now I see white, yellow, pink, all kinds of red, and as beautiful and as double as little Roses—all but the fragrance. Like the sun-dial, they count only the sunny hours. I remember well the first ragged Dahlia I ever saw. What globes of beauty they are, to be sure.

I did not intend to write in this way, but an old man's mind will run in its own channel. I merely desired to call attention to your beautiful display of flowers, and to thank you for the great pleasure it has afforded me so many years.—L. B.



## THE HYACINTH.

The Hyacinth is the most beautiful and fragrant, and the most popular of the hardy bulbous flowers, and is particularly adapted to winter cultivation in the house, so we thought it well to present our readers with a plate showing two good varieties, a Single Light Blue and a Double Red, of natural size and color. This seemed to be particularly desirable now, as the season for purchasing and planting Hyacinths will commence about the middle of the present month. No flower has done half as much as the Hyacinth to make cheerful the long, tedious winters of northern countries. Some years since, when walking with a Holland friend among the bulb-gardens of that country, in answer to inquiries, we learned that the greatest customers for Hyacinths were Russia, Norway, Sweden, Great Britain and the United States. Few were called for from France, none from Italy, Spain, or any southern country. To brighten the dull days and make a winter home pleasant, the Hyacinth is prized in all northern lands, as it well deserves to be.

Having given so much instruction to our readers, in various ways, regarding the culture of this flower, we shall occupy but a brief space at present.

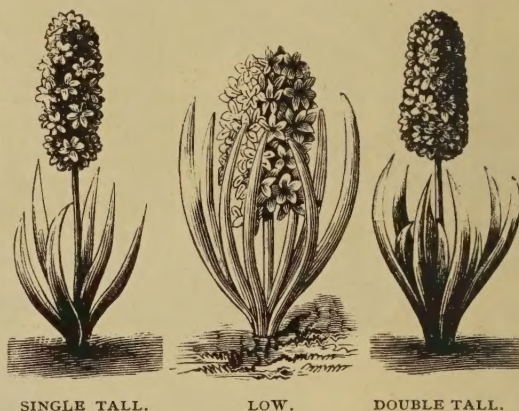
Hyacinths should be planted in the garden in September, October or November. For beds of early flowers on the lawn, nothing excels the Hyacinth. When beds are small and so near together that they can all be seen at once, it is well to fill each one with a separate color. Plant Hyacinths in the garden from three to four inches below the surface of the soil, and, in ground likely to be much affected by freezing and thawing, be sure to give a good covering before severe frosts. Hyacinth flowers may be cut freely without injury to the bulbs. Indeed, all flower-stalks should be removed as soon as the flowers begin to fade.

A very small pot will answer for this flower, but some prefer to plant three or four in a large pot, and this makes a very pretty ornament. Fill the pot with sandy, porous soil; make a space in the soil for the bulb, so that it will be about half below the earth, then press the bulb down so that it will just show its upper surface above the soil, then water, giving all the earth will hold. The pots can now be set away in a cool, dark cellar for several weeks, where they will make roots, but the top will advance but little. By removing a few at a time into a warm, light room, something of a succession can be kept up. When placed in glasses for winter-flowering, the base of the bulb should just touch the water; it will soon evaporate so

that the water is a little below the base of the bulb, and this is as it should be. Set them away in a cool place, as recommended for Hyacinths in pots. As soon as flower-buds appear, sprinkling the leaves and buds is a benefit, and give plenty of light and air, and as moist an atmosphere as possible.

In about five or six weeks after flowering, and when the leaves are becoming yellow, the bulbs may be taken up, dried, and packed away in paper bags or boxes, for planting again in the fall. If the beds are needed for other flowers, as is generally the case, the bulbs may be removed in about two weeks after the flowers have faded. In this case, after removing the flower-stems, if this has not been done before, place the bulbs on a dry bed in the garden, and cover them with a little earth, leaving the leaves exposed. Here they can remain until the leaves have ripened, when they are ready to be packed away for fall planting, or can remain where they are until needed.

Hyacinths usually commence flowering, in this latitude, the latter part of April, and by



choosing the early and late varieties, a good show of blossoms can be secured for about three weeks, if the weather is not too hot and dry. The late varieties are mostly double, and are from one to two weeks later than the early sorts. The low sorts throw up a stem five or six inches in height, and the trusses are usually globular and compact. The tall sorts have a flower-stem from six to ten inches or more in height, and the trusses are usually more loose. The Roman Hyacinth is a very early flowering variety, that comes into bloom about the holidays, and therefore it is very popular with florists for cut flowers. The spikes are small, the flowers somewhat scattering, but each bulb gives several spikes, usually.

Hyacinths differ in habit very much, some varieties throwing up a strong flower-stalk, with a bold and rather loose truss, while others have but a short stem with a compact truss.



## THE AUTUMN.

Another season of buds and blossoms will soon be numbered among the past. August, the last of the summer months, is gone, and we must soon part with the summer flowers. Our evening lounges upon the rustic garden seats, and rambles over the lawn and among the shrubbery will soon exist only as pleasant memories, while we retire from autumn storms and winter cold to the sitting-room and parlor, and seek pleasure in the society of books and plants and friends. The ripening leaves are

about to put on their gala dress of gold and crimson before bidding us a long farewell. We do not, however, mourn at the approach of autumn. The autumn months, the American Indian-summer weather, are the most glorious of all the year. Still, the days are few and short, and uncertain, and at best the pleasant farewell of the season of flowers and sunshine, and are, therefore, "the saddest of the year." One of our best poets, whose elegant productions have before graced our columns, sends the following ;



## FLOWERS OF MEMORY.

The drifted snow, in foldings deep  
Old Winter soon shall bring ;  
Our dainty flowers shall go to sleep,  
And will not wake till spring.

The soft blue sky he'll turn to grey,  
The blossoms make to fall.  
Then shall he steal them quite away—  
And we forget them all?

Nay! even tho' his touch shall bring  
The frost, and chill, and snow,  
In memory, still, the birds shall sing,  
And still the flowers blow.

The purple Pansies, one by one,  
Shall lift their fragrant heads,  
And cooled by rain, and kissed by sun,  
Shall light the garden-beds.

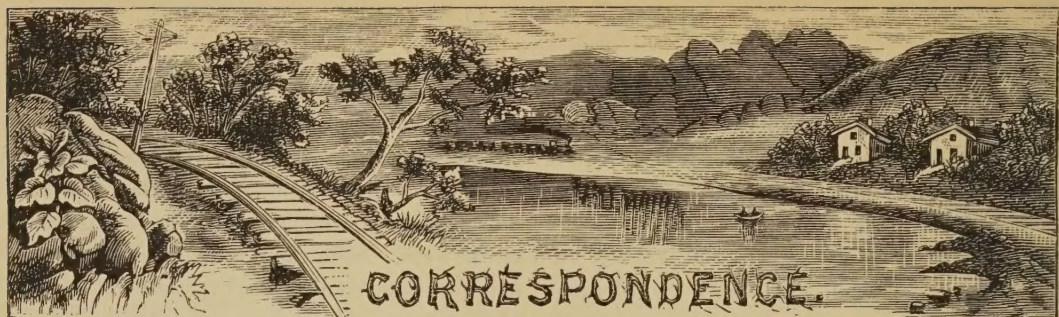
The summer sunlight still shall stream,  
The Roses deeper glow,  
The warm Nasturtiums brightly beam,  
And fainting breezes blow.

The Tulips still shall plant their fires,  
Tho' winter winds are high—  
What loving heart of beauty tires  
In memory laid by?

*Sky Farm, Autumn.*

DORA READ GOODALE.





### THE SOLANUM.

MR. JAMES VICK:—With your permission, I desire to call the attention of your readers to the value of *Solanums* as decorative plants. Rapid of growth, free from insects, and easy of cultivation, they are in all respects admirably adapted for the decoration of the garden and the greenhouse, and, as window plants, they are unexcelled. *Solanum ciliatum* attains a height of about one to three feet, and bears a quantity of brilliant scarlet fruit, which last in perfection about a year. The leaves and stems are armed with sharp spines, thus making it difficult to handle without gloves, but, notwithstanding this, it is in my opinion the finest of the *Solanums* for decorative purposes. I have plants with from one to two hundred berries on at a time; they attract universal attention, and are admired by all who see them. They can be raised from seed as easily as a Tomato. I sow the seed about the 1st of March, in a pot of light soil, and place it in a light, warm place. As soon as the young plants obtain their second leaf, I pot them off into small pots and place them in the light, taking care that they do not become drawn. About May 10th I plant them out, about eighteen inches apart in a well-prepared bed of good garden soil, and, as soon as dry weather sets in, I draw some of the earth away from the stems, so as to form a basin around each plant; this basin I fill with half-rotted stable manure, and about once a week I give the plants a good watering. If a little guano be added to the water it will improve the plants wonderfully. About September 1st I remove the mulch, and with a spade cut around each plant from four to six inches from the stem, according to the size of the plant, and then replace the mulch. This root-pruning will cause them to produce fibrous roots, so that they can be taken up without injury. About September 15th they can be taken up and potted, and then set in a shady place and kept watered until they have taken hold of the soil. This variety is tender, and must be removed to the house as soon as frost is expected, for, if touched by the

frost, its value is destroyed for the season. Care must be taken to give the plants good drainage when they are potted, as they soon suffer if water is allowed to stand in their pots. When the young plants are set out in the spring, neat stakes must be provided for them and the plants kept tied to them while they are young; if neglected, some of the berries will be lost and the shape of the plant injured. It is not troubled by any insects while in the house, but when growing outside it is sometimes attacked by fleas, which injure and destroy the foliage. Soot or lime dusted on the plants early in the morning, or after rain, will banish them. The plants can be planted out the next season, about May 10th, but they cannot well be taken up again, as they grow to such a large size and are inconvenient to handle on account of their spines; besides, the young plants will prove most satisfactory in all respects.

*S. pseudo-capsicum* is the well-known Jerusalem Cherry. It can be grown to great perfection if treated as recommended for *S. ciliatum*, with the exception that, as it is hardier, it may be planted out earlier and left out later than that variety. When planted out in the spring, the ball of earth should be reduced about half, the very weak shoots cut out, and the plant trimmed into shape.

*S. hybridum compactum* and *Weatherell's hybrids* are great improvements on *S. pseudo-capsicum*, both in productiveness and the size of their berries, and in compactness of growth. *S. pseudo-capsicum variegatum* is an attractive plant at all seasons of the year, but especially so in winter, when in addition to its beautifully variegated leaves it is covered with berries. It can be cultivated as easily as *S. pseudo-capsicum*, and is readily propagated by cuttings in the spring. No prettier plant can be found for decorative purposes in winter than a well-grown plant of this variety. It also stands our dry, hot weather very well, and on this account is admirably adapted for bedding purposes. There is, I am told, a variety known as *Prince of Wales*, which is said to bear bright orange,



pear-shaped berries. I have often tried to obtain seeds of it, but in vain. Can any of your readers tell me where I could get some seeds, or can you give me some information about it?

At another time I shall be happy to give a description of some of the best varieties of ornamental-leaved Solanums.—C. E. P., *Queens, L. I.*

#### THE SWEET WILLIAM.

MR. VICK:—I have to thank you for a good many things, and most of all for the good words you have said for some of our good, old flowers. I do love the old herbaceous flowers, the Sweet Williams, Perennial Larkspurs, Hollyhocks and Digitalis, and a host of

necessary to shade and water them until the plants appear above ground, and in fact get quite strong. Then I transplant them into the bed, and furnish a little protection during the winter—a little straw, or cedar boughs.

I have some fine double kinds, but like the single best, because the markings are so beautiful, while these contrasts of color are lost in the double kinds. I send you a little cluster of my single flowers. I hope you will say something to induce your readers to cultivate this old and excellent flower.—F. I. H.

#### AURATUM LILY.

MR. VICK:—I want to tell you my experience with the Auratum Lily. Three years ago

I purchased a *Lilium auratum*. It came the middle of April and I planted it the same evening. I planted the bulb eleven inches below the surface of the ground; it came up the 1st of June, and in August had two blooms, each one measuring eight inches across. The next year, instead of coming up strong and healthy, only a very weak-looking little plant made its appearance. I thought best to look after it, and, near the surface, I found one small bulb, farther on I found five small ones; the ground where they were seemed to be alive with ants, and I therefore removed the bulbs; five of them grew. The



others. Suppose they do not flower all the summer. I do not think this an objection. We do not have July weather all the year, nor would it be desirable. I like the seasons as they change, and the flowers as they come into bloom one after another.

My favorite flower now is the Sweet William. I say now, because I have almost always one favorite that I cultivate and pet for a few years, and try to improve, and then, without altogether discarding the old love, a new one takes its place. No one who has not tried it knows the perfection to which the Sweet William can be grown. I have had heads of flowers, this season, more than seven inches across—perfect masses of almost perfectly globular flowers. I sow the seeds as soon as they become ripe, selecting only a few from the very choicest flower. As these seeds must be sown late, it is

next year four of them grew. This spring four of them came up and grew nicely, and now, two of them are in bloom. Each plant has two flowers, and each flower measures eleven inches across; two of the buds opened the last day of July and two the first day of August. I cannot express my surprise and pleasure. Besides their large size and great beauty, their sweet fragrance fills the air.—M. G. C., *Ellsworth, Ill.*

KEROSENE AND BURDOCKS.—We have used kerosene with complete success in destroying Burdocks and other weeds. The plants should be cut off close to the ground and a few drops of the coal-oil poured on to the crowns; they immediately commence to decay and are utterly destroyed. Troublesome weeds on the lawn can thus be surely and speedily disposed of.



## FLOWER-LESSONS.

There can be no better sign of human progress than the evidence all around us of our earnest, energetic people becoming imbued with a love of the world of plant-life. Our forefathers battled with the wild growth of the vast woods in order to make place for the essential grains to grow. Indiscriminate extermination was, with them, the labor of their whole lives; no wonder that it grew to be felt almost as a duty and a principle. We, now, are delivered from that hard necessity, and we can feel the sense of the sacred words, "Man shall not live by bread alone." Uses are being found for every thing that God has planted upon all the earth and given us to possess, and even the once despised "mere beauty," of common foliage and flower, is acknowledged as a God-given good. Flowers and leaves meet our eyes at every step—in every nook, varying endlessly, and placed before us on every summer day, like the stars that shine on us at night, evidently to excite thoughts, and gives us glimpses of attainable glories not of this world. It is well for us to be impressed with their mute appeal.

For flowers are "apostles," truly, of a religion the truth of which cannot be doubted, for every year renews before our actual eyes the writing of GOD's own hand. They possess a charm that serves to temper the hardness and sordidness of terrene life; they excite in the mind the tenderest, most kindly, most innocent and most hopefully cheerful thoughts; they are bright with all the colors of the bow of promise.

We cannot go wrong, then, in teaching youth, besides the necessary verbiage of the schools, how to read in the great book of Nature, and how to find there a charm, a pre-occupation, a boundless interest that is at once a guard for innocence and a security for happiness.

In the schools of our village, — which lies among the upturned strata of the ridge east of the main crest of the Allegany, showing as great a diversity of flora as of strata and of aspect — oral lessons on natural objects and phenomena have been given more and more largely for some years past. In botany, blanks of uniform small note size are used, having a printed motto, "Consider the lilies of the field," and a printed form of schedule after the pattern in Miss YOUMAN'S First Book of Botany. On the open upper half of the card the pupils neatly gum some leaf, carefully pressed and dried, and enter its different features in the schedule below. These blanks have a margin allowing of their being bound together, and, as they are printed forms, they are mailable at third class rates in exchanging with other schools, or for

sending to distant friends, or by home students for examination by others. Similar papers, such as exercises in the transcription of homographic dictée, ever circulating magazines making the round of a club, (the sheets having printed headings, and personal matters being avoided,) go now at the same rate, and this is a priceless boon, both to the nation and to the secluded studious youth who rise as well as aspire—attaining more than those who have wider opportunities, but more distractions, and making their country's strongest men.

In the spring-time the leaf exercises are pursued with the liveliest eagerness. The search for desired leaf-forms brings to view curious wonders that would otherwise have been unheeded. The pupils are in a new world, one of pure and safe delight.

After the midsummer vacation, flowers and other parts of plants are taken up. Some specimens with conspicuous parts, and abundant enough for each pupil to have one in hand, is taken for a lesson. If a flower, it is often divided down, or opened, so as to show its parts, and these are drawn and named on the board by the teacher, who talks the while, and keeps the pupils busy looking at their flowers by way of verifying her copy of the parts and her descriptions. I say "her," because our male teachers don't so readily take up this particular branch of natural science. But they approve of the flower beds and other planting that adorns the front approach of the school grounds, and they help to maintain such an *esprit du corps* that not a leaf is broken, or a stem injured, or a leaf plucked or soiled. In June last, a little bird hatched her young safely, in a dense vine, the nest being only five feet above the edge of a walk along which five hundred pairs of feet of all sizes passed and repassed daily.

A few, and yearly fewer, object to this puttering with such trifles. As a scholastic procedure it is rather unwarranted by usage. We must go as far back as to the old *akademeias*, the grove-schools of Athens, in the palmiest days of the cultured Greeks, to find flowers carried as most suitable temple offerings, and used, with the letters of the Theban Kadmus, in the instruction and indoctrination of the young. When the old religions became insupportably corrupt, and a new one took its place, gentle in precept, yet deadly in the antipathies nurtured by fierce struggles through centuries, a bitterness against all old forms was excited, the dregs of which lie in men's minds to this day.

In Europe there is a reaction. In England and France there are now struggles over the questions of secular or denominational public schools. In Germany, Sweden and Switzer-



land the book of nature is largely used for texts. Schools stand in garden grounds, and the public botanical gardens furnish public schools with boxes of cut flowers, plants, &c., expressly for visual illustration from the actual subject in the pupil's own hands. One garden at Berlin is said to have supplied nearly three million of specimens, last year, to one hundred and twenty different schools.

Another laudable German custom, lately established, is that of offering a young tree to each person confirmed. In one town nearly one hundred such commemorative trees were planted lately.

Miss YOUMANS describes, in her preface to the First Book, how she was led to see the educational value of botanical exercises, as well as their feasibility wherever a school can be placed. The writer was looking at the same exhibits as she refers to, in the Kensington Museum, in 1868, when there came in through the gallery door a charity school of cripples, many wheeled or aided by their fellows; a plain looking man with a ruddy, cheerful, country complexion was in charge. They had come up to London on a holiday excursion. Evidently the natural history rooms pleased them most; the aquariums, the fish breeding, the bird's nests, and all that. I turned from all to look at this human show of burned, crushed, dislocated figures, distorted inconceivably, but all beaming with delight, and mostly rosy with health, each striving to bring the most helpless forward to enjoy the sights.

This, thought I, is one happy effect of natural and rural training, such as this honest, good humored, but unscholastic looking master seems the sort of man to impart.—\*, *Tyrone, Pa.*

#### THE NEMOPHILA.

MR. VICK :—I wish to introduce to the notice of your readers a family of flowers that have afforded me great pleasure for many years, the Nemophilas. I had heard of the Nemophilas and had seen them growing in different gardens and merely thought they were pretty, and made



NEMOPHILA PLANT.

a very neat, moss-like bed, and I do like masses of moss-like foliage, with here and there a

flower, just like the stars in the sky. It never occurred to me, however, that the Nemophila was a flower of very much importance until, in England, I saw it in thousands of gardens, and acres growing in the seed-gardens. It occurred to me then that the moist climate of England



NEMOPHILA MACULATA.

was just suited to it, for the beds were perfect masses of flowers. In fact, the Nemophila seemed to be always used for a mass of blue, as the Clarkia is for masses of pink or red.

I knew that the Nemophila was a native of California, where the summers are hot and dry, and it seemed strange that it should become so thoroughly acclimated to a cold, damp climate. Some years after, on a visit to California, I learned the facts. The Nemophila flowers in California in the very early spring, at about the close of the rainy season, or later up in the mountains in the cool atmosphere, where you can look up still higher and see the snow. I



NEMOPHILA ATOMARIA.

once saw a most magnificent bed in the Sierras, about the middle of June, but it was in the neighborhood of the beautiful snow-plants, so that you can judge it was pretty cool. I have had the greatest success with the Nemophila by fall-planting. Sow seeds late in the autumn, or very early in the spring. I never plant a bed of bulbs but I scatter a few seeds of Nemophila



between the plants, and they flower elegantly in the spring. A few plants among the thin shrubbery will be more than satisfactory. In fact, there is something about the *Nemophila*



NEMOPHILA INSIGNIS.

that is so delicate that it don't seem out of place anywhere, only a kind of lace trimming, imparting delicacy and grace. If your readers have any little shady corner, please advise them to sow a few *Nemophila* seeds. There are



N. DISCOIDALIS ELEGANS.

several varieties, all pretty, but perhaps a paper of mixed kinds, that can be had for five cents, is all most cultivators would need—at least, this would be quite enough for a trial. —SCHUYLER, *Onondaga county, N. Y.*

The *Nemophila* was first discovered in moist, shady places on the banks of the Missouri river, and not in California, though it grows in

that State most abundantly, where we have seen scores of acres, immense fields of bloom. Our correspondent has well described its merits. We give engravings of several of the best kinds, and show the habit of the plant.

#### MY LAWN.

While sitting, this afternoon, under my "vine clad porch, and surrounded with my beautiful flowers," and hearing the songs of my beautiful birds, I thought I could not devote my time any better than by giving you a description of my lawn. My Lawn Grass was sown the last week in September, at your suggestion. After standing the severity of our winter without any protection, we had it mowed the 8th day of June; it was one foot high. My husband thought best not to mow it until it became well set. Since then we have mowed it twice, and this is the 3d of August, and each time it was ten inches high. We did not have it cut with a

Lawn Mower, as we are not fortunate enough to have one, but hired a man to cut it that is an experienced hand at it. He remarked, "he had never mowed grass as heavy and thick for the length of time it had been sown." Our lawn was filled up with good soil, and we sowed with the expectation of reaping. In the center of the lawn we have a large *Caladium*, and a terra cotta vase filled with the following named plants, — a beautiful *Perilla*, scarlet *Geraniums*, and for the trailing plants, *Vinca variegata*, which lies two feet on the ground. Every evening I give the plants in the vase a thorough drenching with water, and once a week water with manure water, and the vase is now a beauty. I have a belt seventy-five feet long, extending around my house, filled with *Geraniums*, *Heliotropes*, *Coleus*, *Gladolus*, *Monthly Roses*, *Abutilon Thompsonii*, &c. My *Gladolus* bulbs have sent up five spikes. I have given them a bountiful supply of water, which they like, and my *Tuberoses* are budding to bloom. My *Monthly Roses* have done finely, not an insect has disturbed them. For the benefit of some of your readers I will tell them how I treated them. Very early in the spring, when they first began to leaf out, I gave them a drenching with the wash soap-suds by means of the watering pot. I turned them down without injuring them, so that I could wash the under side of the leaves. I treated them in this manner once a week until they began to bud; after that I threw it around the roots. I have not had a slug or insect to trouble them, and finer plants I never saw. I have one question to ask. If *Gladolus* are planted in groups together will they mix, or run into one variety? A lady friend told me they would, but I could not believe it.—MRS. A. H., *Bantam, O.*

The *Gladolus* bulbs cannot mix in the sense expressed above; this can only be accomplished by cross-fertilizing.

#### COAL OIL AND THE CURCULIO.

I am very much pleased with the result which has apparently attended my adoption of the suggestions contained in a very modest little article that appeared in your June number on the *Curculio*. I have eight or ten Plum trees in my garden, and this is their fifth summer there. They bloomed well, this spring, and a very fair show of fruit followed. In the center of one of the trees I suspended wires, and by them supported a tin dish containing coal oil; the oil was replenished from time to time, and made a very perceptible change in the atmosphere of the immediate locality. At this date, July 5th, three plums have fallen off this tree, and on examination I cannot find one



of the crop left on, about a peck in all, with the characteristic mark of the "little Turk." Almost the entire crop of the other trees has either fallen off, or is about to fall, from his attack.

Knowing how fallacious inductive reasoning is, I do not say that the avoidance of the one particular tree by the insect pest was due to the coal oil. I only mention a fact, in order that the subject may be more fully investigated, and the method better tested. — R. O'HARA, *Vice Pres. Chatham Hort. Society, Chatham, Ont.*

#### BOG-PLANTS.

MR. VICK :—I send you a water-color drawing of two flowers found in this locality, hoping you may be kind enough to name them for me in some future number of the MAGAZINE. The sketch was made by Mr. GEORGE ACKERMAN, the gentleman who introduced *Phyllocactus Ackermannii* into England, and in whose honor it was named. The plant with several flowers is found in great numbers in wet, mossy bogs near the sea shore and along the borders of salt creeks. It presents quite a variety of colors, from the dark shade chosen by Mr. ACKERMAN to light



CALOPOGON PULCHELLUS.



POGONIA OPHIOGLOSSOIDES

July MAGAZINE, and was disappointed at not finding it named there, as it is much more beautiful than some of those you described.

The single-flowered plant is found in similar situations, but more in the shade, growing in parts of the bog occupied by scrub Spruce and Larch. It is not nearly so numerous as the other kind; it does not show any variety of color, neither does it bear removal very well. — C. I., *Miscouche, P. E. I.*

The plant with several flowers is *Calopogon pulchellus*, and that with the single flower, *Pogonia ophioglossoides*. The colored drawings received were very accurate representations, and from them we have made the engravings given. These plants can be cultivated by securing for them conditions similar to those they are in in their wild state; it is not known that they have ever been successfully cultivated when removed to the garden.

#### THE PORTULACA'S RELATIVE.

MR. VICK :—A year or more ago, I saw in one of your publications a statement to the effect that the Portulaca was not to be found growing wild in Kansas—or, rather, that it was not a native of Kansas. I intended to send you a specimen of the wild Portulaca that season, but failed to do so. This morning I found some plants on a piece of ground that has been cultivated for several years, and I send them by to-day's mail. The flowers are of but one color, and are very small, but they are perfect Portulacas. There are two sorts of wild Verbenas in this neighborhood, three of Cactus, and two of wild Sensitive Plant, one trailing, with pinkish purple flowers, much finer than any I have ever seen in cultivation, and the other growing upright, with white flowers; but I have not known the Sensitive Plant to be successfully transplanted. — MRS. A. L. MCG., *Kinsley, Kas.*

The Portulaca so much cultivated for its bright, showy flowers is *P. grandiflora*, and is a native of South America. The plants our correspondent sent were duly received, and we have them growing now, but they are not Portulaca plants, although they resemble them very much—in fact, the resemblance of the plants is so great that any one might easily be deceived; but the flowers of the native plant, which is *Talinum teretifolium*, are much smaller, and are borne on a cyme, and careful examination of the two plants will disclose other differences. The flowers of the Talinum are of a purple color. The Portulaca and the Talinum are considered very close relations, botanically, and it is not strange that they should be mistaken for each other.

#### PEPPER THE CABBAGE-WORM.

The use of common black pepper has been recommended to destroy the green Cabbage-worm. About a quarter of a pound of pepper is used on a hundred heads of Cabbage, and is sifted on from a dredging box in the morning, while the dew is on. A thrifty German mechanic informs us that he mixes pepper and coal-ashes together and sprinkles on the mixture with perfect success in the destruction of the worms.





### TUBEROSES.

Will Tuberoses flower the second year? was a question asked by one of your correspondents last year, and subsequently it was suggested that the question be submitted to a practical test, and the result recorded in the pages of this journal. Having complied with the former suggestion, I hasten to lay before your readers the result of my experience. The facts are briefly these: Last year, instead of throwing away all our plants when they had done flowering, as I believe is customary, I saved back twelve plants, not picked ones, which were placed under a stage in a late vinery, where they remained until the end of April, without receiving any water to the roots other than what they derived from the moisture of the house, by which time most of them had thrown up their flower-spikes, which proceeded from young tubers, formed immediately upon the top or crown of the old ones, and from the union of which—when the plants had received a thorough watering and otherwise were subject to a growing temperature—a profusion of roots emanated, after which the plants received a suitable shift to a small 24. The spikes of these plants, although not so strong or fine as those produced by tubers imported last autumn, are nevertheless good, both in spike and each individual flower, which, moreover, expanded in the most satisfactory manner possible—so much so, that this and other seasons I intend to save all my Tuberoses for flowering the second year, and perhaps the third year. I may here remark, for the information of the uninitiated in Tuberose culture, that in potting the tubers all little bulblets or offsets should be rubbed off, and subsequently any suckers which may appear should be removed forthwith, otherwise failure to flower these most beautifully scented flowers in all probability will be the result. The plant is of comparatively easy and simple culture, and considering the value of the Tuberose while in flower, and its great suitability for bouquet making, &c., the wonder is that it is not more extensively cultivated in private establishments

as well as by market gardeners. The flowers wire well and make up very nicely.—H. W. WARD, in *Gardeners' Chronicle*.

### WHISKY FOR MEALY-BUG.

I had the misfortune this season to get some mealy-bug on a few bunches of Grapes in one of our vineries adjoining a plant-stove. Being unwilling to spoil the Grapes by using any of the insecticides warranted to kill the bug, it occurred to me that a dose of strong Scotch whisky might have the desired effect without injuring the Grapes further than spoiling the bloom; and I am glad to say that I found it most effectual, worked in among the berries with a brush made of a few feathers. It kills the vermin at once, and if done with care does not spoil the bloom so very much. I hope some of your readers, who may suffer from the same pest, will give it a trial and report their experience.—J. F., in *Gardeners' Chronicle*.

Judging from effects we have noticed, there is no doubt but Yankee whisky, or at least "Old Bourbon," will be quite as effective. Some of our home brands have the well-deserved reputation of killing at forty rods, and we think they may prove a dead shot for the bugs.

### GARDEN EDGINGS.

Many things are used for this purpose, and they can be divided into dead and living edgings; of the former, mention may be made of slates, tiles, bricks, stones, boards, iron, &c. Of living edgings there are many. We have seen Dwarf Sedums, Thrift, Box, London Pride, Gentiana acaulis (in the north), Arabis, &c., used for this purpose. A few days since we saw a cottage garden where, for the vegetable part as well as for the flower-garden, Chives were used as an edging. Several hundred yards of Chives were used in this way, but they were not used in any other way than for edging purposes. It did seem a little incongruous to have Chives as an edging in a flower-garden, but as a matter of convenience it answered well.—*Gardeners' Chronicle*.



## A GARDEN SCENE.

I think, perhaps, I am a little peculiar, certainly unfashionable, for, while tourists like to spend most of their time in Switzerland, or Italy, or France—and this is the proper thing to do—I certainly prefer to linger along the country roads, and dwell at the little country inns of Old England. You are to blame in some measure for this perverted taste, because it was in one of your old journals that my attention was first called to the neatness, the beauty, the quiet comfort to be enjoyed at the country inns of England, and nowhere else that I have ever learned. If you happen to be stopping near the sea-coast, what superb fish—the best being the sole, a flat fish—you have for breakfast, and the radishes and cream and cheese are excellent. American cheese, however, is becoming well-known and popular, and canned fruits and meat and a great many other things that will do much to make our country prosperous and rich, if we only believe in and practice the motto, that “honesty is the best policy.” Here there are just laws against adulteration, and a merchant found guilty of selling adulterated goods loses character for life, while his bogus goods are destroyed. Something of a notion is getting into the heads of the people that our countrymen will adulterate and cheat if they have a good chance, and some are afraid to buy American goods even after inspection. This opinion is not without some foundation in fact, for the newspapers have given an account of the destruction by the proper officers of a lot of sweetened stuff, which was canned and sent over for honey—the only resemblance to honey being a little piece of comb floating on the top. Other canned goods have also been seized. A few such stupid and dishonest operations will destroy all confidence in American goods and seriously injure our trade. Nothing but our own dishonest greed can prevent a large American trade in Europe. I wish every wretch who attempts such fraud could be detected and imprisoned for a thousand years.

I did not design to write a commercial article for your *MAGAZINE*, but I certainly have some feeling in the subject, as it concerns the good name as well as the prosperity of my loved country. It is not pleasant to have our good name tarnished by a few knaves.

Straying around among the cottage gardens to-day, admiring the beautiful Wallflowers that grow here so abundantly and are found in almost every garden, so dark and double, and the Primroses and Cowslips, I wandered into a gentleman's private grounds, and feeling that I might be taking unwelcome liberties, inquired of a gardener if I was intruding, when I was pleasantly assured that the proprietor was always pleased to have persons visit the grounds, and that they were free to all. This I find is somewhat common in the best places in England, though some are only open to the public on certain days. After looking around





until somewhat weary, I took a seat and viewed the scene, and just to while away an hour in such a pleasant place, drew a sketch which I forward with these desultory remarks. Another time I may write you again.—MILTON, *Hants, England.*

#### THE POTATO DISEASE.

This sad visitation is now affecting early sorts of Potatoes generally, and a continuance of the present weather can but lead to its wholesale appearance among all kinds and in all parts of the kingdom. As usual, it presents itself first in those kinds that are most matured, and then spreads over all breadths alike until not a green leaf is left. Added to a fruitless year, this disease will be a heavy blow to market gardeners and others who grow Potatoes on a large scale. It seems useless to hope for better weather, as the summer is passing away so fast that even should it come it will be too late to benefit many things. The disease would appear to have struck Potatoes on the Continent even before it appeared here, and if crops are as largely affected there as has been stated in the daily papers, there will be but a few foreign Potatoes to import. This fact should induce importers to look to America, where they have had some hot weather, and where, perchance, may be found a fairly healthy crop. But the regulations regarding the Colorado Potato-beetle may interfere with our imports from that quarter. Should prices reach the high figure during the winter that is anticipated, there will be a great outcry if it is found that the American crop is practically excluded from our markets.—*London Garden.*

#### THE AUTOMATIC BUDDER.

The Englishman has beaten the Yankee in inventing a budding knife that inexperienced persons can practice budding with more skilfully than experts with the common budding knife; but we suppose EDISON will look after this matter yet, as soon as his attention is called to it. In the meantime we are inclined to think the English invention will come into use, as it is said by a practical operator to do its work in a rapid, easy and perfect manner. "The object of this invention is to facilitate the art of budding. Notwithstanding all the instructions that have been given, budding is still a somewhat difficult and delicate operation. However handy the budding knife is at present in the hands of practical experts, it is at best ill adapted for the purpose, and difficult to handle, especially by amateurs. The operation of budding often proves a failure by the bark being improperly raised, and by the danger to the bud by insertion. All these risks and difficulties are

avoided by the use of the new patent budder. The transverse cut, so injurious to successful budding, is by its use dispensed with. It has been carefully tested during the last budding season, and after many expensive and exhaustive experiments, the art of budding is successfully placed within the reach of all, and in the hands of professional budders the result is, being able to accomplish this operation six times quicker than by the ordinary method."

#### THE CROTON FENZII.

The *Croton Fenzii*, recently offered in commerce by M. SALVIATI, of Florence, is described as a jewel among the Crotons. It is the result of a cross effected, in the greenhouses of Sesto, between *C. Veitchii* and *C. Weismanni*, and has moderate-sized oval acuminate leaves, richly veined with golden-yellow, the principal nerves being purplish-red, which color extends to the stem and the petiole. The habit is so dwarf and compact that plants only a foot high are often seen in all their splendor, the yellow streaking then extending to almost the whole surface of the leaf, and the red nerves shining on the yellow ground. It is a variety especially fitted for the decoration of small greenhouses, as it requires very little room to be able to develop all its charms. This variety has been dedicated to the Chevalier E. O. FENZI, President of the Royal Horticultural Society of Tuscany.—*London Florist and Pomologist.*

#### ASPARAGUS CULTURE.

Of Asparagus culture, the *Gardeners' Magazine* points out that nine times in every ten everywhere, in large and small gardens alike, the plant is treated as though light and air were of little value to it. It is not enough to insure sufficient space in the first planting, but to take care to avoid a cause of ultimate crowding, that the most careful cultivators are apt to neglect. It is very simple and very natural, this unobserved mischief. The plant sheds abundance of seeds, and the beds soon bristle with self-sown plants, and these are allowed to remain instead of being ruthlessly pulled out. Thus many thousands of well-made and possibly profitable Asparagus beds prove to be worthless, and a mere vexation to all concerned. Young gardeners, in particular, need to lay firm hold of the fact that "weeding" includes thinning, although in our calendars we may not always say so. Young Asparagus plants that appear in an Asparagus bed already furnished are weeds and usurpers, and should be removed as ruthlessly as any other weeds, no matter what their names may be.





## FLOWER-CULTURE IN SOUTH CAROLINA.

MR. VICK :—I enclose you some flowers and leaves, and the fruit of a vine, which so closely resembles the cut in your catalogue of the *Pylogyne suavis* that I will be glad if you will say what it is. The seed was sent to me by a friend as the Sponge Cucumber, or Bonnet Squash, as it is also called. This one plant came up among the others, and was so decidedly different in appearance that I planted it in a tub on the piazza. It is pretty, grows rapidly, and has had many flowers—it now has several of the fruit formed. One of your correspondents says “the *Pilogyne* has white, fragrant flowers,” and, also, that he “never could get it to seed.” I can perceive no odor of musk about this, and the flowers are yellow. This vine is graceful, and up to this time I have seen no insects on it.

The heat, too, has injured gardens, and also piazza plants severely—even those entirely protected from the sun by the shed look badly. Balsams particularly, and Geraniums seem to stand the heat better than other plants this season. A White Oleander in a tub was blooming profusely, but since this hot spell the flowers and the buds have fallen.

A *Cobaea scandens*, from seed planted on the 20th of February, and growing in a keg, has now reached the height of twelve or fourteen feet, with many branches. I hope to see it blossom soon.

Persons think the care of plants must consume much time. This is a mistake; a few grown on a piazza, or in a small flower bed, would be a great source of comfort and rest to many a poor woman, and the few moments daily spent in the care of them would refresh tired minds. And if those who have plants would encourage the poor, hard-worked woman to cultivate even one plant, in every city, village or way-side cottage, it would do more than anything else to open their hearts to the Great Father, who has sent flowers on earth to brighten and delight the eyes of all his children. Would it not be well to offer here, as in England, prizes for flowers grown by the working-classes? Let them try some easily-grown flowers at first—Petunias, or Verbenas, or Phlox—they will soon go on to others. Your MAGAZINE will teach some to remember the poor.—M., Charleston county, S. C.

The plant of which leaves and flower were received is a *Bryonia*, but just which species we cannot at present determine.

We agree perfectly with the remarks of our correspondent about the recreation of flower-culture, and also that it is very desirable to encourage their cultivation by those that are poor, and consequently have few sources of amusement or enjoyment; but we would do nothing to make a class distinction between rich and poor—that distinction is clearly enough drawn

now. We recognize no special working-class in this country. The few persons with sufficient wealth to retire absolutely from business are not numerous enough to constitute a class; and the minister, the doctor, the lawyer, the editor, the teacher, the merchant, and any other useful person, is as much a working member of society as the seamstress, the mechanic, or the laborer of the soil. We would have everybody lend a helping hand to those that are poorer, not in an offensive way, but by the exercise of a discreet sensibility, by those acts that result from a genuine fellow-feeling. Agricultural and Horticultural societies, in offering premiums, can offer some for the best-grown specimens of annuals, and such plants to be raised in pots that are within easy reach of poor people. Then let every one compete for those premiums, without attempting any distinction of wealth or position.

## FLOWERING PLANTS AND COLD-PITS.

MR. VICK :—As your ear is always open to our talks about flowers, I must not be the last to give our experience in the cultivation of them. When I was first married, my husband bought a great many fine plants and seeds, and we together planted our little garden. Most of the seeds were of annuals, and truly, they are best for beginners. We had some fine Petunias, Stocks, Dianthus, and then there were Hyacinths, Tulips and Lilies, though Lilies have never done well with us. I think we planted them in too hot a place, as I learn from your MAGAZINE that they thrive best in a partially shaded and damp location. Amaranthus and Pansy seed, there were Everlastings, too, Sweet Alyssum, Abronia, Asters, Balsams, and Verbenas. Every year we bought new seeds and plants, and have tried all of the very best annuals; we have also given much of our attention to green-house, or hot-house plants, and have, year after year, seen them frozen stiff, until about two years ago, when we had a pit made for them; now we have flowers all winter. We kept about one dozen of the best single and the same number of double Geraniums, two Wax Plants, one Century Plant, the *Othonna crassifolia*, white and green striped Tradescantia, Parlor Ivy, several Camellias and Cactus, Gloxinias, Tuberoses, and Fuchsias, last winter, also a number of Callas. Our pit is about twelve feet in the ground, and we have steps from the bottom to the top; it has the whole top of glass and faces southeast, the sides are walled with brick and it is capable of holding 400 plants with ease. Water rises in the bottom and stands at one and a half or two feet all winter. Could I not have aquatic plants, and how could I best grow them, from



roots or seeds? Could I here grow the *Nymphaea odorata*? What plants do you think would be best suited for such a place. As there seems to be too much moisture for the plants, I thought probably the aquatic plants would absorb enough of it so as to benefit our other plants. Sometimes the buds of the *Geraniums* mould and rot off before blooming, even the leaves of the *Geraniums* decay and fall off. Could I, by planting seed of annuals now, Aug. 1st, use them in the pit for winter bloomers? What ones would be best for that purpose? Would *Oxalis floribunda* make a good basket for the pit during the winter? I am anxious to have plenty of flowers all winter and I wish to be prepared for this before winter comes. I like showy flowers, and think I will get me *Salvia splendens* for one thing. Would not ferns thrive in such an atmosphere as I have described my pit to be?—A SUBSCRIBER, *Lancaster C. H., South Carolina*

One of the first necessities of a cold-pit, or of any ordinary kind of plant structure, is good drainage. It is not strange that SUBSCRIBER thought of turning her attention to aquatic plants; the pit is really suitable for nothing else, and if it is to be used for the purpose first proposed, it must be drained at once; as it is we should not consider it worth using. If this pit should be put in proper order, it would prove very valuable as a means of wintering plants, and besides many flowers could be had from it. *Oxalis floribunda*, as SUBSCRIBER suggests, would prove an excellent plant for winter flowers.

#### THE ICE-PLANT.

MR. VICK:—Could you not give, for the benefit of your readers, some instructions on the Ice Plant. I am very anxious to raise it, but cannot succeed.—A. B. B., *Dale, Ky.*

We know of no difficulty in raising this plant. The seed germinates freely, and it grows without any particular attention, requiring only clean culture. A rather light soil is preferable, and the seeds can be sown where the plants are to grow. It should have a full exposure to the sun, and in any ordinary season it will not fail to grow thriftily. It is best to shade the ground a little when the seed is sown, and to protect it from the washing



of heavy rains. Many seeds that are planted never produce anything, because they are destroyed by drought just as they are sprouting, and this could be avoided best by judiciously shading the ground at that time; others are washed out of the ground by heavy showers—hand-glasses, or even flower-pots inverted over them, would save them from this unfortunate end. Usually the difference between success and failure in flower-culture consists in attention to little things.

#### SANVITALIA AS A BEDDING-PLANT.

MR. JAMES VICK:—*Sanvitalia procumbens* fl. pl. has proved a most desirable bedding-plant. The plants have been covered all the season with an abundance of densely double, bright, golden-yellow flowers. It grows to the height of six or eight inches, and is of the easiest cultivation. The seed can be sown in the open ground about the 1st of May, or it may be sown in a hot-bed about the middle of April. If sown in a hot-bed, the plants should be transplanted about an inch apart into



boxes as soon as they can be handled, and care should be taken not to let them become drawn. They can be planted out about one foot apart, and if any happen to be single they can be pulled up. Care must be taken when saving seed, to select from such plants that have the most perfect flowers.—C. E. P., *Queens, N. Y.*

Our own experience with this plant has been unsatisfactory and we have thrown it out of cultivation; the trouble has always been to get good, double flowers; the most of them would retain an ugly, black center. If C. E. P. has succeeded in getting them as he describes them, and without the black center, we shall agree with him that it is a "desirable bedding plant." We have only occasionally seen as fine flowers as he describes.

#### TOMATO-WATER FOR INSECTS.

A writer in a German horticultural periodical states that a decoction of the Tomato plant proves a valuable insecticide. The stems and leaves are boiled in water, which, when cold, is used upon plants affected with insects; it is applied with a syringe, or plant-sprinkler. It destroys green-fly, caterpillars, &c., and leaves upon the plant an odor which prevents the attack of insects for a long time. The remedy is stated to be more effectual than fumigating and washing.



## SALISBURIA TREE.

Will you please give me the name of the tree, a branch of which I send you to-day. I found it growing on a neighbor's lawn, but have not been able to ascertain its name, as even the owner does not know. The leaves are of a peculiar shape, as you will see, and the color is naturally a very delicate green, but may have changed when you receive them.—AMEROSÉ.

The specimen received is *Salisburia adiantifolia*, or Maiden Hair Tree, on account of the



resemblance of the leaves to those of the Maiden Hair Fern. The meaning of the last word, *adiantifolia*, being, maiden-hair leaved. It is a tree of rather small growth, about the size of the Mountain Ash, and was introduced from Japan a long time since, though it has not been generally cultivated. We do not know that it has ever fruited in Europe or America, but it is said to produce fruit of value in Japan and China. The Japan name is *Ginkgo*. It is a pretty, clean tree for the lawn, and can be obtained, we presume, at most of the nurseries.

## SPLENDID BALSAMS.

MR. VICK :—I send you by mail, to-day, a few specimens of Balsams raised from seed purchased of you this spring. I have about one hundred and fifty plants, and every one double. Some of my Balsam plants are nearly two inches in diameter near the ground, and nearly three feet high—just one mass of bloom. I have taken first premiums on Balsams at the Ohio State Fair three years in succession. I took the highest premium given by yourself for general display of cut flowers, at Dayton, last year. I received seventy-two dollars in premiums, last year, on flowers, and nearly all of them raised from seed. I have now upwards of 4000 plants in bloom; I have more than 1000 plants of Phlox Drummondii, Pansies 400, Carnations 150, Gladiolus 2000, Dianthus, Zinnias, Verbenas, Asters, Geraniums, Cockscombs, Petunias, Delphiniums, &c., in great numbers and variety. When at Dayton, last year, a lady examined and admired my Balsams. She said she was from Washington, D. C., and had been around the country a good deal, and attended quite a number of Fairs, but had never seen as fine Balsams in her life. I bought a packet of Hollyhock seed, last year, and every plant produced double flowers, the largest and most double I ever saw, they were all

white, and perfect beauties. I have some Zinnias now as large as Dahlias. I have been raising flowers and vegetables from your seed for about twelve years, and seldom fail.—MRS. J. B., Columbus, O.

We received the specimens of Balsams, and they were certainly very fine, showing, not only that they were produced from good seed, but by good culture. Mrs. J. B. evidently has a practical idea or two about flower culture, and the result must be exceedingly gratifying to herself and her friends.

## BIRD-FOOD—DIANTHUS—SOIL.

MR. VICK :—Please answer the following questions in your next MAGAZINE :

1. What is the best kind of seed for Canary birds, and in what proportion should it be mixed?
2. Is the *D. Chinensis* hardy? Will it bloom in the winter if taken into the house?
3. What do you call "light, sandy soil?"
4. What is the name of the enclosed flower?—P. J.

1. A good mixture of seeds for Canary birds is the following: Two parts Sicily Canary and one each of German Rape and German Millet.

2. *D. Chinensis* in this locality is not quite hardy—when left in the ground over winter it should have some protection. Plants raised in pots can be brought into bloom in winter—those that have been in the ground all summer, if lifted carefully and well-treated afterwards, may be brought into bloom the latter part of winter and early spring.

3. A soil composed of equal parts of loam, sharp sand and leaf-mold would be a light, sandy soil.

4. The flower is Bachelor's Button, *Centaurea Cyanus*.

## LILY NOT BLOOMING.

MR. VICK :—I am very much troubled about my White Lily. I purchased a bulb four years ago last spring. It was called *L. japonicum longiflorum*. The first year it did not grow very much, only about two inches in height. The next year there were three shoots, and they did not grow any higher than the one the year before. Last year one of the stems bloomed about the 10th of July, but I was not at home and did not see it. This year there are four stems, but at present neither of them are four inches in height, and show no bloom. What shall I do with it? Must I move it or not, and when, spring or fall?—Miss B., McLean county, Ill.

Do not move the plant, but give the soil all about it a good, liberal coating of well-rotted manure, and let it lie all winter; in the spring, rake it in. This will give the plant a start, for the soil is, apparently, now too poor for it.

COAL-OIL AND THE STRIPED-BUG. — The striped-bug so injurious to Cucumber and Melon vines can be kept at bay by using a mixture of coal-oil and ashes. A handful of the ashes spread about the plants, without coming in actual contact with the stem, will prevent their attacks.



## GARDEN PEAS.

MR. VICK:—I send you a Pea plant that I consider remarkable for its productiveness, and for the habit it has of branching, which of course enables it to give a large crop. It was an accidental plant, that grew in a row of Little Gems, and as it was later I let it grow to see what it would come to. I have grown it now for three years, and thought I would like to know its name. It is second early, neither the pods nor peas are very large, nor do I consider the quality extra good for a second early, but it certainly would be good for a market gardener, where quantity is of more consequence than quality.—G. M. J.

The plant and pea looks very much like an old sort, called the Peabody, after the American merchant and philanthropist of London. It has some merit, as suggested by our correspondent,



but the fact is, new kinds are almost every year put on the market by English seedsmen, and the old kinds are forgotten, except a few sorts like the old Champion of England, whose excellencies have never been surpassed, if equaled, and which is as popular now as twenty years ago. It is all right to consider quality of no consequence, we suppose, for a market gardener, as long as people will be satisfied with poor stuff, but we hope buyers of vegetables will soon learn to pay a fair price for a good article. Branching is not of much advantage, as sowing the seed a little thicker will produce the same result.

## NO ONE CAN TELL.

If anybody can tell us how the different varieties of the table Radish can be successfully raised in the garden, we will gladly publish the fact, and thank the informant in the name of thousands of readers. Except in the hot-bed, we find it next to impossible to get good Radishes. They are either all tops, or wormy and leathery. In new, or on farm land, which is about the same thing, there is no trouble about it; but in gardens, generally, and in old ones always, it is the most difficult of all vegetables to grow. And yet, what is more refreshing and grateful for breakfast than a sound, tender, crisp Radish?—*Germantown Telegraph*.

It is useless to try to grow Radishes in a cold, heavy, humid old garden soil. Go to the woods and get a load of leaf-mold and give the Radish-bed a top-dressing of two or three inches, and you will have no trouble in growing good Radishes, if planted in a warm spot, and not too early. When the seed leaves appear, if the flea is troublesome, dust with soot. Don't sow the seed too thick. If fresh soil from the woods is not to be had, dig in lime, ashes, dust from the roads, anything to lighten and enliven the soil. Give a top-dressing of an inch of soot from bituminous coal, gently raked in. Sow little seed, and when plants come up, thin out so that no Radish will be within an inch or two of its neighbor in any direction, and with mild weather and warm showers, you have a right to expect crisp, tender and digestible Radishes. If Radishes grow too close together they are apt to run to tops, without forming good bottoms. The same

is true if grown without sufficient air in hot-beds. If they grow slowly in consequence of unfavorable weather, or an unsuitable soil, they are woody and worthless, and are preyed upon by insects. A rapid, succulent growth is necessary to make a good radish, and this is secured only by a light, rich soil, and sufficient warmth, air and moisture. The best forcing varieties are the oval kinds, such as French Breakfast, and Wood's Frame. These will also do for out-door culture, with Long Scarlet and the Turnip varieties; while for a late sort, there is nothing better, to our fancy, than the Long White Naples.



## EVENING PRIMROSE.

MR. VICK:—I enclose a flower which I would like very much to know the name of. The stalk is from three to five feet high. It blooms only at night. The flowers come out at twilight, remain open all night, and then close in the morning. One flower blooms but once and then drops off. When it comes out one notices a slight stir in the bud, and then, all of a sudden, the whole flower opens in less than a second's time. If you could from the imperfect description given, and from the flower and leaf, tell me the name of it, you will greatly oblige.—MRS. S. H., *Moline, Ill.*

Your plant is one of the species of Evening Primrose, *Oenothera*. In the April number of the present year will be found a somewhat full account of it. Some species of the *Oenothera* are remarkably beautiful and well worthy of cultivation, and all of them are very interesting. One of the finest kinds is *O. acaulis alba*; as its name implies, this species is stemless and the flowers are white. The blossoms are frequently four inches in diameter, and open suddenly toward evening.



## A GOOD MARIGOLD.

MR. VICK:—Marigolds were never favorites of mine. The flowers are good, and even the foliage, and for a show of dark yellow, I do not know where we can obtain as good as with the Marigold; still, they are gen-



FLOWER AND LEAF.

erally coarse, and the fragrance is not desirable. I have a kind with a small, single flower, borne in immense numbers, but its beauty is in the globular form of the plant, which makes almost a ball, and the flowers are so numerous that they form a perfect mass of yellow,

with only an occasional leaf to be seen. The leaves, too, are so finely cut that they are really handsome and fern-like. Now, from the flowers and leaves I enclose, perhaps you can give me the name. I obtained it with other seed, and have lost the label, and as I am not successful in saving seeds, I may lose it unless I know the name.—T. G. T.



FORM OF PLANT.

The Marigold you have is a very good one. The flower is small, as you observe. To save a long description, and perhaps give a better idea of its merits, we publish an engraving of the leaf and flower of natural size, and also the plant, much reduced in size, but giving a very good idea of its form and the abundance of its flowers. Its name is *Tagetes signata pumila*.

## PLANTS TO NAME—SCILLA MARITIMA.

MR. VICK:—Will you please tell me what the enclosed leaf is? The plant I have is a year old, and runs nearly to the ceiling, but has never bloomed. I should like to know something of its habits, whether it blooms, &c. Will you also tell me how old the South Sea Onion must be to bloom? I have one bulb a year old and another younger. Will the oldest one bloom this summer?—MRS. D. F., *Boulder, Col.*

We cannot determine from the leaf that was received what the vine is. Some leaves are so peculiar as of themselves to distinguish the plants to which they belong, but this is comparatively rarely so, and our friends must not expect plants to be identified from a leaf, or from any small portion of a plant. Often we are able to do so. As a rule, as much of a plant as possible should be sent; a portion of stem with leaves and the flower, at least, are necessary. The Sea Onion, *Scilla maritima*, must be a good, strong bulb to bloom, not less than an inch, or an inch and a half, in diameter.

## BUCKWHEAT AS AN ORNAMENTAL PLANT.

MR. VICK:—In one of three fine window-boxes in my office window, facing north, a seed of Buckwheat chanced to drop. It grew, of course (thirty-one inches high,) and it is very handsome and odd, mixed in with the *Coleus*, *Geraniums*, &c. A *Canna* at each end sets it off well—one red and one green. Suggest Buckwheat to your readers, and it will suit.

A single plant of Buckwheat is not very attractive in form, although its flowers are beautiful, but surrounded by other plants, as described above, it no doubt is very handsome. We have seen Buckwheat blossoms used with fine effect in bouquets.



### CLUB-ROOT IN CABBAGES.

From quite a number of sources complaints have reached us lately about knotty excrescences or enlarged growth of the roots of Cabbages, commonly called clubbing, or club-root. The enlarged growth of the root, soon after it commences, arrests the growth of the head, and renders the plant worthless. This affection, whatever may be its cause, is often a very serious one; we have known whole fields of cabbages to be devastated by it without the possibility of checking it. What is the cause of this peculiar development, how may it be prevented, and what remedies may be applied to affected plants? These are questions that have been asked for many years without receiving replies fully satisfactory. A mystery has seemed to hang about the cause of this difficulty, and various theories have been proposed to account for it, none of which, however, have been verified. The one most generally received and ap-



DISEASED CABBAGE ROOTS.

parently having had most evidence in its support, is that it is the result of an insect, as maggots are usually found in the enlarged parts of the roots. Recently more light appears to be thrown upon this question by the studious researches of a European investigator, by the use of the microscope—an instrument by which wonderful results have been attained in the fields of science. M. WORONIN, in the pages of a German botanical publication, has explained the results of his studies upon the subject in question, and, according to an English authority, “claims to have succeeded in discovering the essential cause of this disease.” Accompanying the disease and infesting the tissues of the plant, he invariably found a minute fungus organism, to which he gave the name, *Plasmodiophora brassicæ*. After having thoroughly studied the life-history of this fungus, he was satisfied that it is the sole cause of this disease, and he then set to work to devise means to prevent it from spreading. He found that this disease attacks not alone the Brassica tribe of vegetables, but likewise many other Cruciferae, such as Candytuft and Stocks, for example,

“Insects,” says WORONIN, “are merely accessory, and it is an error to attribute the cause to them.” Before describing his plant he enters into some particulars respecting collateral facts. In the spring young Cabbage plants often die off from other causes than the attacks of the fungus. Young seedlings bearing only seed-leaves, or at the most two or three pairs of stem-leaves, often begin to decay below the seed-leaves, the outer tissue rots, usually at the point where the stem passes into the root on a level with the ground, and finally the plants fall to the ground and perish. By the use of the microscope this fungus was found to be different from that causing the club-root. WORONIN states that the only difference observable in the sections of perfectly healthy roots of Cabbage is, that in the latter some of the cells of the parenchyma of the bark are filled with an opaque, fine, granular, plasmatic substance, and also, that these cells are rather larger than the neighboring ones.

An examination of successively more diseased sections will reveal the increase of this organism. Some of the cells will be found to contain a number of minute, colorless, spherical, separate bodies. The granular substance is the body, so to speak, of *Plasmodiophora brassicæ*, and the small spherical bodies are its spores. The spores are exceedingly numerous, and so small that sixteen hundred of them laid side by side would only measure an inch in length.

When the affected Cabbages, or whatever they may be, are long left on the ground, they decay, and the spores of the parasite are dispersed, and they will speedily infect the roots of perfectly healthy plants.

With regard to the prevention of clubbing, WORONIN regards fire as the only really efficacious means. Great care should be exercised in selecting the young plants, and any showing the least trace of the disease should be rejected and burned, and all old diseased plants should be served the same. Any crop subject to this disease should not be sown on the same ground where it has recently shown itself. Cabbage plants germinated in water in which badly diseased tissue had been macerated soon became infected.

None of the means used against this affection have proved of any avail in arresting it when it has once seized upon a plant. All that have proved beneficial have acted as preventives. When the disease has shown itself upon a piece of land, lime, wood-ashes, soot, nitrate of soda and common salt have been applied with more or less success, with reference to future crops. These substances are used singly, or two or more of them combined. If the disease



is caused by a fungus, we should expect special benefit to be derived from the use of sulphur; this is one of the elements of soot, and possibly is the effective agent in that substance. WILSON'S *Rural Cyclopædia* says:

"Dry hydro-sulphuret of lime, such as may easily be obtained at the public gas-works, has been recommended, in the form of a slight dressing of the surface soil, as a preventive. Mr. George W. Johnson, who suggests this last remedy, says, 'I entertain this opinion of its efficacy in preventing the occurrence of the anbury, from an instance when it was applied to some brocoli, — ignorantly grown upon a bed where cabbages had as ignorantly been endeavored to be produced in successive crops. These had invariably failed from the occurrence of the anbury; but the brocoli was uninfected. The only cause for this escape that I could trace, was, that just previously to planting, a little of the hydro-sulphuret of lime had been dug in. This is a very fetid, powerful compound.'"

This may be unknowingly a testimony in favor of sulphur. We have no doubt that some of our practical gardeners and farmers will yet obtain the mastery of this insidious foe of the Cabbage tribe.

#### STRAWBERRIES.

At the present time, and for the past two years, an unusual interest has been connected with the Strawberry subject, on account of the introduction of new, and in some points, superior varieties. For many years previously the great mass of cultivators had settled down on the Wilson as the most wonderfully productive, and the Triomphe de Gand and the Jacunda as the best sorts. The aim of the originators of new varieties has been to produce one, the bearing qualities of which should equal the Wilson, and with quality at least superior to that variety, if not equal to that of Triomphe de Gand. With such end in view, and with high sounding announcements, there have been many cries of "lo here" and "lo there," only to result in disappointment. But there is no end to the enterprise and perseverance engaged in the work, and the skill of propagating new varieties may be considered as hardly acquired. Except with a few we believe this to be true, and think that great improvements are yet to be made in this fruit that shows itself so susceptible to the arts of the cultivator. Believing we have no prepossession in this matter, we propose to name, for the benefit of our readers, six varieties, which, from our own observation and the careful perusal of many reports from the best cultivators, we have concluded take the precedence for general cultivation. In doing this,

no doubt a great many local favorites will be left out, and, very possibly, some of these in particular localities may be superior to any of those we shall name. This, however, does not affect the relative standing of the six for cultivation over a wide section of country. Our list, then, stands as follows: Crescent Seedling, Captain Jack, Sharpless, Miner's Great Prolific, Forest Rose, Duchess. We do not suppose these names stand in the order of the value of the varieties; it is not so intended; in fact, we cannot express an intelligent opinion upon this subject — that must be based upon the experience and trial of the future.

All of these kinds are of good quality, to say the least, and very productive, and have proved themselves to maintain these characteristics of primary importance in many sections of the country. It is with confidence, then, that we say that any one of them that may be selected will prove satisfactory and honor its already fair record.

The Horticultural Society of Portage County, Ohio, has lately issued a very interesting report upon the Strawberry and its cultivation in that section. Among other suggestions it has this good one. "In picking, it pays to keep out the small berries, and this can easily be done by each picker carrying an extra basket in which to put them. A few small berries, while adding but little to the measure, will injure the appearance and sale of a large quantity of fruit."

The following statement, we think, should be slightly modified. "Unlike most other crops, the Strawberry does not exhaust the land on which it is grown. Probably ten bushels of this fruit will not remove from the soil as much richness as one bushel of grain, and when a bed is plowed up it is almost equal to turning under a crop of clover." We believe no crop pays better for manure and good culture than the Strawberry — this is thoroughly established by experience everywhere, and, in fact, the report itself bears the same testimony, when it says: — "About fertilizers there was essential agreement. Bone dust was regarded as the best. This can be used in any quantity without danger, while in the use of phosphates wise caution must be exercised. Of bone dust it is not economy to use more than three or four hundred pounds to the acre, though a ton may be used without injury to crop."

COAL-TAR AND POTATO-BUGS. — Coal-tar water is reported to be destructive to Potato-bugs, and as effectual as Paris-green, without being dangerous to use as that is. The proper strength of the tar-water must be determined by trial.



### THE CALIFORNIA LILIES.

The California *Horticulturist* by the following vivid description gives us a view of the western Lilies in their native haunts. "The mountain children whom one meets on their way to school these July mornings, load themselves down with what they call 'Tiger Lilies,' or, in other words, *Lilium Humboldtii*, whose spires flash out with wonderful brilliancy around the bases of volcanic rocks, or near shattered ledges, or on the hard red clay of the hillsides. One of our authors, who studies with loving and analytic mind the colors and sounds and meanings of the Sierra woods, has called it 'carnelian-hued,' with its orange and amber ground, veined with black. In favorable places we have found Lily stems as tall as a man. The bulbs are deep down, and not easily dug out. Some insect bores into and ruins many a choice bud. This Lily loves company, being always found in groups. Where you see one yellow flash, you may be sure there are others near. After blossoming time is over, the stalks disappear very quickly. By following up the long ridges blossoms may be found in perfection for several months. The same is true of the lovely white Lily, *L. Washingtonianum*. Both species are in perfection in Nevada County."

### TWO SWEET LITTLE FLOWERS.

MR. EDITOR :—I forward you to-day, in a little box, specimens of two sweet little flowers from my garden. They are not rare or expensive kinds, for the seeds that produced both only cost ten cents, and I have a fine large bed of each, almost three feet wide by six or seven



SWEET ALYSSUM.

in length. I have two objects in sending them to you. First, I wish you to tell all the people how much beauty and fragrance we can have for a very little cost and trouble. Then, I think the flowers and spikes of the Mignonette are larger than common, and the plant more compact, and of much better form. I attribute this to having the plants in a good, rich soil, and properly thinned out, so as to give each plant room to perfect itself.

The Sweet Alyssum, you will also notice, I think has longer spikes than common. Most of the Alyssum I see has little, round heads, but mine has long spikes, especially those that are the oldest. This, I also think, is the result



MIGNONETTE.

of my treatment, which is, plenty of room and plenty of water. I water them every other evening in a dry time.—AURORA.

### AMERICAN FORESTS.

The following are extracts from a paper on this subject in *Harper's Monthly* for August, 1879, by GEO. MAY POWELL, Chairman of the American Institute Forest Committee :

Of a desolation recorded far back of even the days of Grecian glory : "A man was famous according as he had lifted up axes on thick trees." In the days when American forests were practically limitless, our fathers were far too famous for lifting up axes on the trees. Trusting to what seemed employment, skilled laborers have made their homes where the streams appeared permanent. Then, as the summers came and went, the river grew more and more feeble till the spindles were silent. Then the flood turns that stream to a demon of destruction. The cause of all this was that the sources of the river's life have been injured or destroyed by men who lifted up axes on the thick trees far up the mountain where the mill streams have their birth.

Next to production in importance, is the question of transportation as involved in navigation. Less than a quarter of the traction is needed to move a ton afloat than is needed to move it by rail.

Many of the streams constituting Britain's inland navigation are so small as to be spoken of as "brooks" in the Parliamentary acts giving rights to companies to use them. One of these combined canal and river courses takes freight at the southwest of England, at the Severn, up historic little Avon, across Wiltshire to the Thames, and down to London. All this will



be so improved on that in a few years the speed between steam and canal boats, and that of the average freight train will be materially reduced. Britain's inland transport lines thus exceed the length of her rail lines.

Agriculture does not need sacrifice of trees, to save streams for navigation or manufactures. The identical conditions of rain and dew-fall needed by either is needed for all. Seasons seldom pass in which farmers would not have from one to three-fourths added to their yield by a more equal distribution of the rain-fall. High culture proves an acre properly watered, may yield as much as seven or more treated in the usual ways.

Single trees have been burned in America in log heaps, which, cut into veneers, would sell for more net cash than the whole farm where it grew. When our forests are as well treated as those of Europe, few trees will be cut except by advice of a forest engineer.

#### CALLIRHOE INVOLUCRATA.

Enclosed I send you seeds and flowers of a Malva. I should call it Creeping Mallow. One root will cover a bed six feet in diameter in the second season, and it is a most lovely lawn-grower, with its dark, shining green leaves and numerous crimson flowers. It is now August 12th, and the plant has bloomed since June 10th, and could have been made to bloom much longer if I had cut down the old flowers. It is a very prolific bloomer, being very full every morning.—H. S. B., Omaha, Neb.



A very good report, indeed, to hear from this beautiful perennial which, by the by, produces its flowers the first year from seed, and is often treated as an annual. It is a malvaceous plant, but not a true Mallow, although formerly considered so. As to color, it is a purplish crimson. For a mass of color to be seen at a little distance, it is an excellent plant, and should be better known. Low-growing and long-blooming perennials for the flower garden are rare.

#### EUPHORBIA.

Will you please give me the name of the plant, a few leaves from which I enclose you. It grows eighteen inches or more in height, and as the leaves are white-margined, it is a very pretty plant. I desire to secure it next season, and don't know whether I must obtain plants or seeds, or how it is to be cultivated.—E. B. J., Erie Co., N. Y.



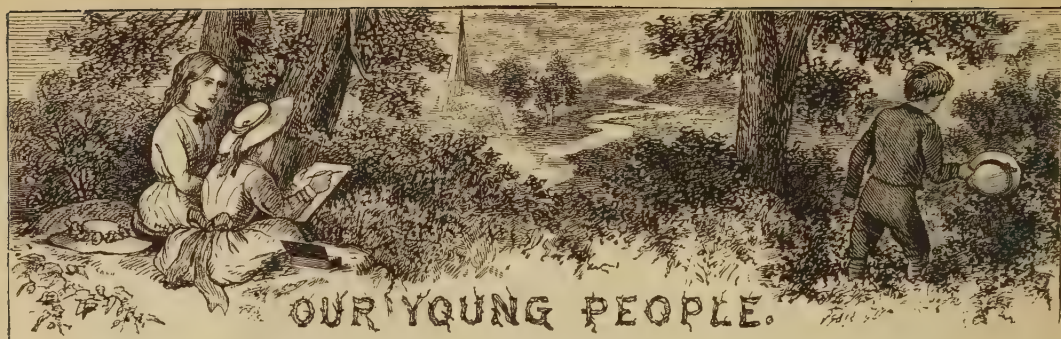
The plant is *Euphorbia marginata*, a native of the Western States and Territories. It is an annual, and grows freely from seed, and is well worthy of culture.

#### INSECTS ON HONEYSUCKLES.

MR. VICK:—In your MAGAZINE for August you advise B. R., Mount Holly, N. J., to use weak tobacco water to destroy the insects on her Honeysuckles. Now, I don't think the insect is the green-fly, and I am quite certain that weak tobacco water will not kill it. We have had two Honeysuckles covered with the pests. The first we cut down to the ground, last year, after using copperas, whale oil soap, Paris green, Persian powder, kerosene, and syringing and smoking with tobacco. Then we removed the root to new soil, and no insects have since appeared on it. This year we have been compelled to cut down the second. Instead of removing this one, I poured boiling water over the ground, directly on the roots. This was the first of July, and it has since come up very strong and thick. If B. R. looks, she will find that the wood under the loose bark is completely covered with the eggs and insects in every stage. The insect somewhat resembles the aphid, but has black marks on its back, and is covered with some downy substance. I don't think that the insects trouble a young vigorous vine, for a Japan Honeysuckle, planted near by last year, has not an insect on it.—M. T. R., Salem, Mass.

WILLOWS FOR BINDING.—Every farmer should have a supply of Willows for binding, such as are now used for binding bundles of trees. For binding cornstalks, straw, and for many other purposes, they will be found of great value when their utility is once known.





### THE SEA-BEACH.

We have just spent our vacation at Ocean Grove, a most delightful resort for children, and an account of the way they spent their time and what they found there, we thought might be interesting to those of our young readers who are too far away to enjoy a coasting season.

In the first place, while there are plenty of well-to-do people there, the children are by no means compelled to suffer the infliction of fashion, by having to be in full dress, slick as a new pin, all the time. On the contrary, the little folks—and some of the big folks, too, I noticed—are provided at the outset with easy-fitting navy-blue flannel dresses, large straw hats, and a small pail and shovel, while the shoes and stockings are stowed away somewhere in the closets or trunks. In this trim we found the little boys and girls on the beach, and the first expression we heard was, “Aint this jolly?” We thought it was, and it didn’t take us long to feel like a little boy once more.

Several of the children busied themselves digging wells, or building pyramids, or bridges in the sand; some would get behind the old folks, as they sat upon the beach, and bank them all around and up to the top of the shoulders with mounds of sand. This was rare fun, particularly when the tide was coming in, for often the waves would make a larger sweep than usual, and give the prisoners a jolly good ducking before they could well extricate themselves. Then, there were certain hours each day for bathing, according to the tides; on such occasions the children might be seen going into the surf with their parents or guardians, or paddling by themselves in the shallows, and a grand time they had of it, as they had nothing on that would spoil with the salt water, and bathing masters were always in attendance in case of the slightest danger or mishap.

Some of the young folks, more curious than the rest, would stray along the beach, far beyond the crowd, in search of shells and pebbles; after two or three hours’ absence they might be seen trudging back again, with their

little pails and pockets brim full of treasures. An assortment of this kind was spread out before us, and we began to count, name, and make sketches of the collection, much to the interest and amusement of the young spectators.

And now what do you think we found in this medley gathering? Well, first there was the inevitable clam shell, from half an inch to six inches across; there are several species of clams known—the beautiful shell called Bear’s Paw belongs to the clam family, and the Giant clam, *Tridacna gigas*, is so very large it sometimes weighs over five hundred pounds, and the animal within weighs as much as twenty pounds. The natives of the coast where it is

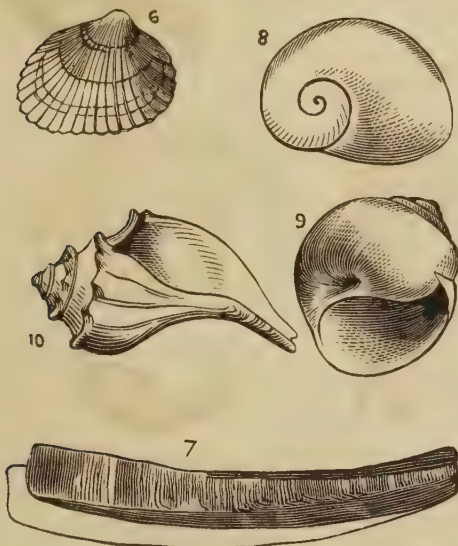


found—the Indian ocean—are very fond of this shell-fish, and eat it without cooking, the same as we eat oysters. The clam shells our young collectors brought in belong to the species known as the Dipper clam, *Mactra solidissima*, (1), and is extremely plentiful on the Jersey coast. At low tide the children often went digging clams for a stew or bake. “How do you know,” said I to a wise-looking little fellow, “where to dig?” “Oh,” said he, “do you see that little dent in the sand, just big enough to put your finger-end in; well, that’s a clam, sure!” So saying, he at once shoveled out the

sand five or six inches down, and there sat a fine, fat clam.

The next shells we noticed, were two varieties of mussels, *Mytilus edulis*, (2). I do not think people eat these shell-fish much in this country, but in England and France they are used extensively, although they affect some persons with very serious symptoms of poisoning; the shells, however, when free from bruises or scratches, make very pretty specimens for a cabinet, as some are a deep violet, others a glossy black, or a rich, warm brown, and the insides of all have a fine, pearly lustre of different tints. A third lot represented the borers, *Pholas dactylus*, (3), this is a pretty shell, of a creamy-white color, the fore part of the shell being set with little points or projections, arranged very much like the teeth of a file. This mollusk burrows a cavity in the rocks, by some means, and there remains during its lifetime. It has the power of producing a strong phosphorescent light, and the empty shells, dislodged and thrown up on the beach, are occasionally to be found.

The scallop seems to be very plentiful, judging from the quantity the children gathered. This beautiful shell has its representative in all parts of the ocean world. Those brought to us at Ocean Grove are known as the *Pecten concentricus*, (4). They are handsomely marked with red and brown in curved bands, and regu-

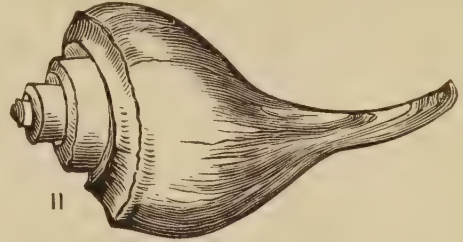


larly ribbed from the crown to the scalloped margin. These shells are used to make small pin-cushions, and very pretty little ornaments they make.

Another curious shell in the collection was that of a species of limpet, and looked like a lop-sided little boat, with only one seat, at the bow. These shells are not considered hand-

some, but are worthy of being collected for their curious shape. The specimen figured is called the Boat shell, *Crepidula fornicata*, (5).

The cockle family was represented by half a dozen of the common cockle shells, *Cardium edulis*, (6). These mollusks are also eaten by some people, but, we believe, are not considered



much of a dainty. The shell is a variable, chalky, buff color, and sometimes greyish, and neatly ribbed.

The last of the bivalves was curious enough, being cylindric in form, six inches long and one inch wide; this is the well-known Razor shell, *Solen siliqua*, another variety is called the Sabre, *Solen ensis*, (7), because it is slightly curved. This animal buries itself in the sand perpendicularly, sometimes to the depth of five or six feet, coming to the surface at pleasure, by means of its powerful foot.

Besides those already named, the children had picked up several shells larger than good-sized apples, and among them were two varieties of natica, *N. duplicata*, (8), and *N. heros*, (9), both smooth, creamy-looking shells, with a few pale tints upon them. Then there were specimens of *Pyrula carica*, (10), somewhat pear-shaped, as the name indicates. This shell was rough, and all covered over on the outside with a sort of limy grit, but it belongs to a good family and can boast some very handsome relatives.

The last shell, and by far the largest, was a *Pyrula canaliculata*, (11), the name referring, doubtless, to the furrow on the inside of the whorls, which certainly gives it a very singular appearance; in color, this shell is a blackish-violet.

We might tell our young readers something about the sea-weeds and star-fish, but the specimens were very scarce and poor; there were, however, a large number of crabs caught in the inlets near by, and we may have occasion to speak of crab-fishing at some future time.

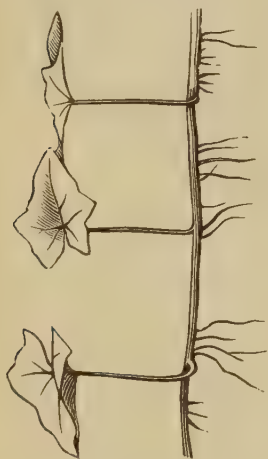
And now we think the little folks made quite a good haul, and, in after years, these shell treasures will remind them of many happy hours, besides being the means, we trust, of teaching them something of the wonderful works of God.—

J. W.



## BOTANY FOR LITTLE FOLKS.

When a seed germinates, the extension of the little plant is always in two ways—the root going downwards into the soil, and the stem rising above the ground and into the light. By careful experiment and observation it is now well known that plants do not grow in the night and in totally dark places—it is only in the sun-



HEDERA HELIX.

light that they are able to increase in size. The action of the light upon the leaves affects the sap and prepares it to become a part of the plant itself. The principle that we observe in the growth of a little plant from a seed is constantly operative during all the growth of a plant—always it is spreading out its leaves to receive the light. Look at a large tree, if you please, and you will notice that all the growth takes place at the end of the branches—here all the new leaves are formed every year. The leaves are situated so that they are fully exposed to the light, where they can do the most service. In the case of weak-stemmed plants, the operation of the principle

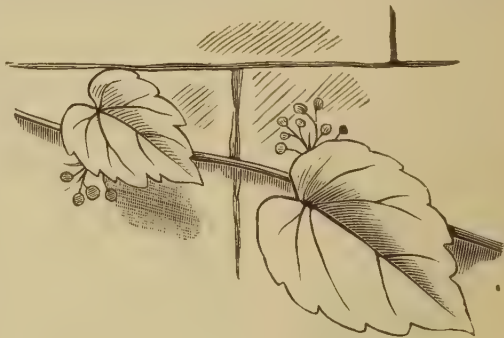


AMPELOPSIS QUINQUEFOLIA.

we are noticing is as obvious as in strong-stemmed plants, although not in the same manner. Take, for instance, the Purslane, that grows so commonly in our gardens; it throws out its branches from the crown in every direc-

tion, flat on the ground, so that the full sunshine can fall on every leaf. Another familiar example is Bird's Knot-weed, or Door-grass, *Polygonum aviculare*, that grows about almost every farm and village house, spreading out its branches thickly in every direction, close to the ground, like a mat; the leaves are quite small, but very numerous. This same plant, growing in shady places, lifts itself up, and its leaves are much larger; thus, we see it accommodates itself to its circumstances—in both cases disposing itself to receive the most light.

Many plants, as they lie spread out on the ground, throw down roots from the under surfaces of their stems, thus acquiring additional means of deriving their nourishment; in some plants these roots are produced all along the stem, and in others only at a joint, or node, as, for instance, in the Silver-weed, or Goose-grass, *Potentilla anserina*, or more familiarly still, the Strawberry. Thus it appears that these plants so formed and situated as to be particularly lia-



AMPELOPSIS VEITCHII.

ble to injury from animals are in a condition, by contact with the soil, particularly favorable for their increase or propagation. And in a manner different from most plants; for plants generally are propagated by their seeds, but these plants not only produce their seeds, but also increase themselves by rooting from their stems. Such plants are not inappropriately called creepers. Some plants throw down rootlike organs from their stems, not so much to draw nourishment from the soil, but to enable them to cling to a sloping bank, and to climb upon its face, or to cling to any upright object that will help them to expose their leaves to the light. Perhaps the most remarkable of such plants is the Ivy, or, as it is commonly called in this country, the English Ivy, *Hedera Helix*. SHIRLEY HIBBERD, a pleasant English writer on horticultural subjects, says:

"In the woods where Ivies abound, myriads of little seedling plants may be discovered, just showing their glossy leaves above the grass. As we survey the scene, and observe that every tree has its stem wreathed in Ivy, and some

trees are heavily garlanded above with the branching growth that produces flowers and fruit, it will be noted that, although little Ivy plants stud the ground, they do not anywhere form a carpet on the common surface, and indeed make no progress at all until they can obtain a hold to rise above it. In the garden we see the plant winding on the flat ground as a trailer; in the woods it is quite an exceptional occurrence; it may indeed be termed an accident for it to assume a trailing character. The reason is that the young plants are killed out by the grassy herbage in which they begin life; they are suffocated through inability to rise above the common crowd in the midst of which they were born. The seeds that fall at the foot of a tree, a stone, or a tower, have no better conditions for germinating than those that fall



VITIS LABRUSCA.

amongst rough herbage, but the plants that spring from them are enabled from the first to employ their means of attachment and begin that aspiring life which renders the Ivy one of the grandest adornments of the landscape in which it happens to constitute a distinguishing feature."

We have spoken of the means by which the Ivy supports itself, as root-like organs; if we care to examine the subject we shall find that they are true roots, though not in all cases performing their functions as such. While the primary roots supply all the nutriment the plant demands, the holding-claws may only serve for support; but if by any means the supply from the original source should cease, or be checked, or, if plant food that is particularly suitable presents itself to these organs, they at once become roots in character as they already are in appearance.

The writer we have already quoted, after mentioning many cases of what he calls "detached Ivies" on old walls, asks the question, "how is it to be accounted for, that if we find an Ivy on a wall or tower, and sever the stem

near the ground so as to cut off all supplies of nourishment from that below, the Ivy still lives? The answer is, that the claws are true roots, which are usually arrested in development, but are fully developed when the circumstances are favorable, and penetrate far into the masonry that supports the plant to provide for it, whenever an accident shall result in isolation."

The best observers are not altogether agreed that the Ivy when detached from its proper roots will support itself equally well on a tree as on a wall; the most correct conclusion is, probably, that the sap of a tree is not congenial nutriment for the plant, and that if obliged to depend upon it, it will do so for a time, but will soon begin to show signs of failure, and life will be maintained for a length of time comparatively short. A British poet, CALDER CAMPBELL, says:

"Oh falsely they accuse me  
Who say I seek to check  
The growing sapling's flourishing;  
I better love to deck  
The dead and dying branches  
With all my living leaves;  
'Tis for the old and withered tree  
The Ivy garland weaves."



COBCEA SCANDENS.

This is very pretty poetry, but there is no doubt



PISUM SATIVUM.



the Ivy does injure trees by climbing on them, not that it "sucketh its juices, its own veins to fill," but that by tightly encircling the branches of the tree it materially checks the circulation of the sap, and by covering over the foliage of the tree by its own it effectually excludes the light and so seriously impedes the natural action in the leaves. With quite as much of practical sentiment and more nearly expressive of the truth, therefore, one of England's Bishops writes :

" The Ivy, fairest plant to seize,  
And promptest, on the neighboring trees,  
O'er bole and branch, with leaves that shine  
All glossy bright, tenacious twine,  
And the else naked woodland scene  
Clothe with a raiment fresh and green.  
Fair is that Ivy twine to see !  
But as ye love the goodly tree,  
O rend away the claspings wreath,—  
'Twill pay the kind support with death.  
Ah, that beneath such semblance fair  
Should lurk conceal'd such deadly snare !"

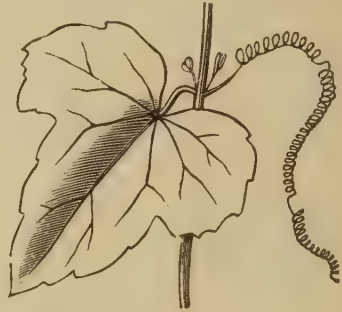


PASSIFLORA CÆRULEA.

The same destructive effect upon the trees, and from the same causes, results from the embraces of our American Ivy, or Virginia Creeper, *Ampelopsis quinquefolia*, and this has never been suspected of robbing the juices of the tree that supports it.

If we examine the holding-claws of the Virginia Creeper, we perceive that they are not at all of the character of roots ; they simply perform the service of attachment. The holding-claws of this plant that we refer to are shown in our illustration, opposite the upper leaf. They occupy the place of the cluster of fruit, and apparently the flower-stems are converted into these organs whenever they are so situated as to be capable of performing service in this man-

ner. The ends of the branches, or pedicels of the flower-stem, spread out into little circular, or oval disks which adhere firmly to any surface of brick, or stone, or wood, by which the plant can elevate itself. Curiously enough this



PILOGYNE SUAVIS.

plant provides for itself as if it were not to be baffled in its determination to rise ; when a tendril to wind around a stem, or branch, or some other small object, will better assist the plant to fasten itself there its supporting organ is moulded into that form, as seen opposite the lower leaf in the illustration ; whether a tendril or a holding-claw, this organ, essentially the same under two forms, is no doubt a transformed flower-stem with its branches.

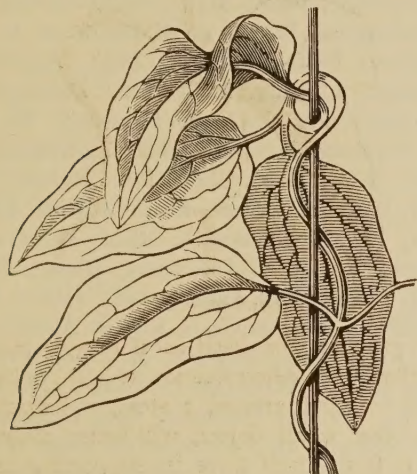
The Japan Ampelopsis, *A. Veitchii*, has only the holding-claws, without any tendrils, but the holding-claws in this plant, which are all it has



MAURANDYA.

to depend upon, are better developed than in the Virginia Creeper, and attach themselves much more firmly. The conversion of a flower-

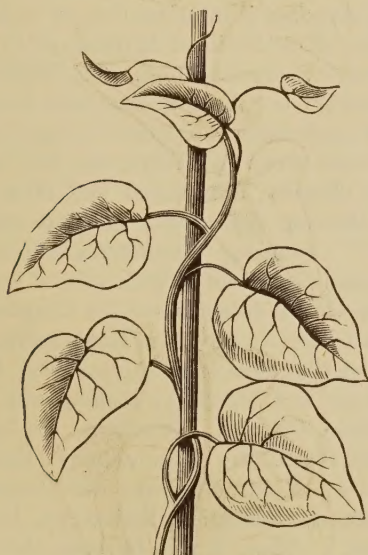
stem into a tendril is exemplified in the case of the Grape-vine quite as clearly as in the Virginia Creeper. The tip of a tendril is very sharply curved, so that it clings with much tenacity when it has once fastened upon an object, and after it has extended itself so as to



CLEMATIS.

make one or two turns the tendril begins to coil, and thus gradually draws the vine up to the supporting object.

The tendrils on the Pea vine are formed in the place of leaflets. The leaf of the Pea is a compound leaf with a number of leaflets, and it will be noticed that the tendrils occupy positions similar to the leaflets. In this case, nature, instead of increasing the amount of foliage,



CONVOLVULUS MAJOR.

supplies the means to lift up and expose to the light that already formed—such is its economy. The *Cobæa scandens* furnishes us with an example similar to the Pea vine—tendrils occupying the place of leaflets. The Passion vine is an example of a peduncle, or flower-stem, so

changed into a tendril as to retain no semblance of its former character, which, in the case of the Grape-vine, may be traced more or less clearly. The tendril of the delicate summer climber, *Pilogyne suavis*, belongs to the same class, but we produce an illustration of it more especially to show the manner in which it coils; after making a number of turns in one direction it stops, and then makes a number in an opposite way, and then changes again and coils in the same way as at first; frequently three or four changes are made in the coiling of a tendril. The result of this construction is that the spring is firmer and stronger than it would be if all the turns were made in the same way.

So far, we have noticed that plants climb by the change of some of their essential organs, thus



LONICERA SEMPERVIRENS.

adapting them to the special use of climbing. If we will notice the *Maurandya*, we shall see that the long leaf-stem, or petiole, by clasping over an object securely attaches itself. This plant, however, is not very large or heavy, and can support itself easily. The same adaptation of the petiole is seen in the *Clematis*, but in this case the coil of the leaf-stem is more decided, and forms a very firm attachment. This plant also winds its own stem, sometimes, about the supporting object and thus fastens itself, but in this respect it is not a very good example, for it does not twine with any uniformity.

One of the best examples of a twining plant, or one that erects itself by winding its stem about the supporting object, is the Morning Glory, *Convolvulus major*, the best of all the



large annual climbers. In this style of climbing plant we have the perfection of economy in the adaptation of means to an end; but we cannot fail to notice that the larger, the stronger and heavier, and longer-lived climbing plants, have the most specialized organs for their support; while the lighter and shorter-lived plants erect themselves by simpler means.

Our illustration of the Morning Glory represents the plant twining, as it is called, against the sun; the Honeysuckles, as shown by the representation of the Scarlet Trumpet Honeysuckle, *Lonicera sempervirens*, twines in the opposite direction, or with the sun.

#### AMERICAN POMOLOGICAL SOCIETY.

By invitation of the Western New York Horticultural Society the Seventeenth Session of this National Association will be held in this city, commencing Wednesday, September 17th, 1879, at 10 o'clock, A. M., and continue for three days.

The exhibition of fruit will be on the grounds of the Western New York Agricultural Society, in connection with the Annual Exhibition of that Society, and it is intended to make this one of the greatest exhibitions of fruit ever seen on any similar occasion.

All Horticultural, Pomological, Agricultural, and other kindred Associations in the United States and British Provinces, are invited to send delegations as large as they may deem expedient; and all persons interested in the cultivation of fruits are invited to be present, and take seats in the Convention.

It is earnestly hoped that there will be a full attendance of delegates from all quarters of our country, thereby stimulating more extensive cultivation by the concentrated information and experience of cultivators, and aiding the Society in perfecting its Catalogue of Fruits.

Members, delegates and societies are requested to contribute collections of the fruits of their respective districts, and to communicate in regard to them whatever may aid in promoting the objects of the Society and the science of American Pomology. Each contributor is requested to prepare a complete list of his collection, and to present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as early as practicable. A limited number of Wilder medals will be awarded to objects of *special* merit.

Packages of fruits, with the names of the contributors, may be addressed as follows: "AMERICAN POMOLOGICAL SOCIETY, care of JAMES H. KELLY, Esq., President of the Western New York Agricultural Society, Rochester, N. Y." Freight and Express charges should be prepaid.

Invitations have been extended to the following named gentlemen to prepare papers on subjects pertaining to the work of the Society, which, it is believed, will add interest to the meeting and value to the Proceedings: Prof. GEORGE L. GOODALE, Harvard University, Cambridge, Mass.; WILLIAM SAUNDERS, Esq., Washington, D. C., on Experiments in Fruit Culture; Prof. WILLIAM J. BEAL, Agricultural College, Lansing, Mich., on "Distinguishing Varieties of Apples by the Flowers;" Dr. JOHN A. WARDER, President Ohio Horticultural Society, North Bend, Ohio; Rev. ROBERT BURNET, President Ontario Fruit Growers' Association, Hamilton, Ontario; Prof. WILLIAM R. LAZENBY, Cornell University, Ithaca, N. Y.; P. J. BERCKMANS, Augusta, Ga.; ISIDOR BUSH, Bushberg, Mo., on Grape Rot in America; P. T. QUINN, Esq., Newark, N. J., on Fruits in New Jersey; WILLIAM C. BARRY, Rochester, N. Y.; THOMAS MEEHAN, Esq., Germantown, Pa., will give an Address on the Sexes of Flowers in Relation to the Fruitfulness of Orchards, and New Varieties.

#### THE NATIONAL AGRICULTURAL CONGRESS.

September promises to be an eventful month, rural-wise, with us in Rochester. At the same time, commencing September 17th, there is to be held the Fair of the Western N. Y. Agricultural Society, and a meeting of the American Pomological Society, by invitation of the Western N. Y. Horticultural Society. To precede these gatherings is to be another of wide interest—that of the National Agricultural Congress, to convene September 15th. The object of this organization is "the collection and dissemination of information in relation to Agriculture in the several States and Territories, and concerning the climatic, economical and other conditions affecting agricultural progress and prosperity." Standing Committees, consisting of gentlemen prominent in their several vocations, are expected to bring before the Congress information in reference to Farm Engineering, Buildings and Improvements; Agricultural Chemistry, Soils and Manures; Agricultural Botany and Plant Culture; Agricultural Zoology and Animal Husbandry; Agricultural History and Statistics; Rural Economy and Legislation; Agricultural Education, Periodicals, Literature and Art. Thus, it will be seen, the Society has a wide scope, and a field of action almost exclusively its own. It is to be hoped that the enterprising and public spirited agriculturists of all sections may give the Congress their influence and assist in its deliberations. In time such united action and effort must beneficially affect the interests of the whole country.







Lithographic & Chroma Co of Rochester, N.Y.

# TULIPS.

1. STANDARD ROYAL.  
2. SAMSON.

3. YELLOW PRINCE.  
4. CROWN OF ROSES.